The Last Traffic Jam: Psychologic Consequences of Nuclear War

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Only humans, it is said, know death. God, the Bible relates, cast Adam and Eve out of Eden, confronting them with the awful truth: "Dust you are, and to dust you shall return." The human quest for meaning in life, before the 1940s, was to reconcile the beauty and transience of life with death's mystery; this was also the ultimate task of religion. Knowledge of death can permeate and poison life, or it can raise our sights from petty personal gain to a higher and transcendant meaningfulness.[1]

With Hiroshima and Auschwitz, death acquired new implications, forcing mankind to face not only individual death, but also the absurdity of collective extinction. While individual death can seem at times a gift of rest, as Hamlet dreams, or almost an art form, as per Sylvia Plath, collective self-annihilation is as new a phenomenon to humankind as the knowledge of individual death was to Adam and Eve. Just as Adam and Eve's disobedience to God in the biblical story brought about the awareness of individual death as our inevitable fate, now humanity's collective decision to violate the fundamental moral tenets of every religion threatens permanent extinction and an end to the evolutionary experiment called humanity.

The mind recoils from this confrontation with extinction and seeks to dull the painful truth with denial or even illusions of survival. The Jews in the ghettos of Eastern Europe trudged to the cattle cars, for the most part ignoring fearful rumors and choosing to believe the Nazi leaders who told them they were being resettled for work in the occupied eastern territories. Instead, of course, they were sent to death camps. Similarly, many people prefer to believe reassurances of the chances of surviving nuclear war, rather than face the terror of possible nuclear annihilation.

As the awareness of individual death tends to render individual life meaningless, so the prospect of absurd and grotesque mass suicide threatens to render society meaningless. Victor Frankl[2] relates that those who survived the Nazi death camps often did so because they possessed an investment in the future, an intrapsychic need to fulfill some task before surrendering to the relatively attractive option of death rather than continued torture. "The prisoner who had lost his faith in the future—his future—was doomed. With his loss of belief in the future, he also lost his spiritual hold; he let himself decline, and became subject to mental and physical decay."[2] Now, the prospect of species annihilation overwhelms us and saps the creativity, ingenuity and capacity for nurturance that is everyone's birthright, because the world itself seems to have no future.

From the moment that this threat is recognized, individual lives can be poisoned. Fear and anxiety may become encrusted deep within the psyche and, like an abscess, "draw off" our ability to love and work, resulting in a subtle, chronic enervation. Alternatively, anger and a retreat to primitive patterns of competition, nationalism and paranoia may ensue. As Yeats put it, "The best lack all conviction, while the worst are full of passionate intensity."[3] Even if nuclear holocaust were prevented forever, there remains the psychologic malaise resulting from the fear of extinction, and the fear of our immense power over nature and tenuous control over our own aggressions. Society becomes emaciated by a lack of social values. Just as individual persons may succeed in transcending death, through spirituality or creativity, societies will languish until a moral decision is made to cherish life and to reject genocide.

We are now in the first phase of a war that really would end all wars, and the psychologic consequences of this first phase are at once to worry and also to be susceptible to misinformation that feeds the child inside of all adults, that child who seeks reassurance that somehow the adults have the child's security in mind. Psychologic solutions to this intolerable tension may be the paralysis of despair, or suicide. Dr John Mack, a psychiatrist at Harvard, studied more than 1,000 adolescents in Massachusetts for their attitudes toward nuclear war. He found that most of these children were already deeply disturbed by the omnipresent threat; they also evidenced cynicism, sadness, bitterness and a sense of helplessness. Some were literally unable to plan ahead for families or careers in any long-term sense.[4] In a similar study of "stoners," adolescent drug

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abusers from Milpitas (California) High School, Elizabeth Kaye found that fear of impending nuclear war was expressed by "every single teenager" she met, regardless of how otherwise uninvolved they were. One child said, "We're not going to last much longer." She burst into tears. "I'm sorry, but I get so upset. I think of all the things I'll miss" (*Seattle Post-Intelligencer,* April 11, 1982, pp B1,3). Both Mack and Kaye attribute heavy drug use and hedonistic behavior in these teenagers to a loss of faith in the future.

Alternatively, many people have made a shocked retreat from reality, to a denial that verges on being delusional, that somehow nuclear war would not be so terrible after all. Foremost advocates of this delusion are the self-styled survivalists who claim that human beings are not social animals after all, but rather are capable of meaningful survival even in the absence of societies. Additionally, certain officials of governments in Russia, England, other European countries and America claim that civil defense, not prevention, is an answer to the nuclear threat. The notion of the individual survival instinct rings true with the popular saying—which made sense in long eons of evolutionary testing—that "when the going gets tough, the tough get going." Flight is an understandable primitive response to terror. However, reality changed fundamentally with the escape of the power of the sun and the stars to earth, and it is ludicrous for official government agencies to respond to this threat with as much adaptive reasoning as an ostrich that buries its head in the sand.

In the United States, the Federal Emergency Management Agency (FEMA) is the foremost proponent of "ostrichism." While in the past one could say that "Civil defense is the opiate of the people," the frightening change now is that these officials actually seem to believe themselves. FEMA claims that with three to eight days of warning before a nuclear attack, through mass evacuation, up to 80 percent of the American people and substantial parts of industry and the economy could be saved in an all-out nuclear war (*Los Angeles Times,* January 15, 1982, p 1). Medically, socially, economically and rationally this makes no sense. The detonation of even 20 percent of Soviet arsenals on US cities and industries could destroy 110 million people (55 percent of the US population) and 70 percent of the nation's industry.[5(p102)] Yet this magnitude of destruction is completely out of the range of human experience, and the mind rebels at the thought. The myth of survivability seems more attractive, with the result that the world is sliding rapidly toward nuclear war, rather than a massive revulsion at the concept of nuclear annihilation and a retreat from the abyss.

Perhaps only a shock can break through this denial process. We must learn to stretch the imagination—that is, to think the unthinkable, in Herman Kahn's words—to be able to grasp the reality of 50,000 stars falling to earth. Robert J. Lifton has said, "The only problem with shelters is getting into them, staying in them, and getting out of them."[6] Examining the psychologic sequelae of evacuation, sheltering and survival in a postattack world may be one way to stretch the imagination, so that never again will humans queue up in orderly lines, waiting patiently for their own annihilation.

Tension Grows

Mounting international tensions will provoke immediate internal effects in the United States that will add to the pressures on national leaders to act, perhaps with a preemptive first strike. Earliest effects will consist of increasing individual resistance to participation in society, as preoccupation with anxiety and individual and family survival grows. The primary result is economic slowdown. Anxious people work more slowly, less accurately and with more distraction. As international anxiety rises, citizens will be less likely to buy houses or cars, invest in retirement plans, save money or even reproduce. Altruistic behavior decreases as people feel less secure themselves and as they perceive less opportunity for reciprocation.

Evacuation

As tension mounts, there will be increasing numbers of voluntary, unplanned evacuations. The evacuation of the area around Three Mile Island showed that even without governmental instructions, many people will evacuate their homes, from the fear of nuclear catastrophe. In Pennsylvania 145,000 people were evacuated from an area of 706 square miles (1,829 sq km) surrounding the damaged reactor. Among the reasons given for leaving were the dangers of the situation (90 percent), to protect children (61 percent), because information was confusing (83 percent) and to avoid the danger or confusion of a forced evacuation (76 percent).[5(pp362,363)]

The effect of voluntary evacuation will be a further slowdown of the economy. Businesses, factories, hospitals and schools will falter, and possibly close. The reliability of the monetary system will be questioned and credit cards and checks may lose value first. Massive withdrawals of cash from banks may force banks to close. Moreover, the evacuees may face hostility from people in the host areas, when money loses its meaning and they wish to stay on as guests.

As people watch their neighbors, friends and colleagues voluntarily evacuate, insecurity and fear would spread rapidly and chaos and panic might ensue. The President might be forced into proclaiming a national evacuation program, to try to forestall the chaos of the spontaneous flight from the cities. Of course, the start of a national evacuation program might trigger the start of war, because spy satellites would quickly show the movements of populations, and each side would worry that the other side was planning a first strike.

What would happen in the United States if suddenly the air-raid sirens started to blow and the harsh tone of the emergency communication system interrupted and terminated radio and television shows throughout

the land? Today's young adults grew up in the 1950s when civil defense drills were commonplace, and most of them have a hidden, inner fear of nuclear war. The sound of the sirens might well reduce them to the psychologic state of terrified children, feeling as they did during the air-raid drills of the 1950s, afraid that their nightmares were about to become real. Panic is a small word to describe the engulfing fear of the flames and fire.

Amid the panic, concern for family members and fear of separation would predominate. In most urban centers, parents usually work at considerable distances from their children's schools and day-care centers. The sirens would send both children and parents into further panic, and any prediction that authorities try to make of traffic patterns would be disrupted by desperate parents and wives and husbands trying to locate one another. During the Three Mile Island accident, children were frightened by seeing other children and teachers removed from school in tears. Children were abandoned in locked houses, left to fend for themselves. Some schools were evacuated as a whole, without informing parents.[5(p367)] Fear of separation would be heightened by the uncertainty of the time of the attack, and fear that the separations would be final.

The Three Mile Island evacuation demonstrated an enormous distrust of government information and plans. With the threat of imminent nuclear war, who would patiently wait his or her turn for evacuation? FEMA has devised schedules for evacuation, neighborhood by neighborhood, but who could resist the impulse to cheat, to try to sneak in line on the freeways and leave the high-risk areas quickly? Traffic jams would be unprecedented as some persons rushed for the evacuation routes while others tried to return to the cities to rescue relatives. Even in peacetime, large traffic jams try the patience of many normal people and turn others into beasts behind the wheel. In this last traffic jam, angry and aggressive behavior would be predicted, particularly in response to delays. For example, an unfortunate family that runs out of gas on a narrow road might be the victim of vicious attempts to throw the car off the road rather than altruistic attempts to share gasoline.

Civil servants have no monopoly on courage, devotion to duty or altruism. Neither do they have notable excesses of the same. Would the call to protect one's family and self be less strong on a bus driver or policeman than on a businessman or florist? Probably not. Then, as the evacuation progressed, vital community services such as police, ambulance, transportation and health care services would collapse. The question of the evacuation of hospitals poses a particularly difficult dilemma. Which of the sick and injured would be evacuated, and would health care personnel abandon their own families and self-interest to take care of those who could not be evacuated? In Seattle, a specific person is apparently designated to go to the zoo when the attack is announced, to shoot the heads off the poisonous snakes, so that they would not pose a risk to the survivors. Is there someone in each hospital who has similarly been designated to euthanize the ill, rendered terminal by their immobility, when it is time to evacuate?

It is possible that many people would defy the evacuation orders and choose to die in their own homes with their families, rather than face the risks and insecurities of evacuation. An example of such behavior was shown by Harry Truman, the elderly innkeeper at Spirit Lake, Washington, who chose to ignore the scientists' warning of the eruption of Mount St Helens in 1980 and died at home in the mudslide. A common sentiment is, "When the bomb goes off, I hope I'm at ground zero." Fear of radiation sickness, starvation and riots may be greater than the fear of being vaporized in a microsecond and many people, anticipating such an end, may choose to stay home. Mass and family suicides are also likely, in the manner of the Jonestown (Guyana) massacres; parents may choose to kill first their children and then themselves, rather than live with the intolerable fear of being separated, killed or maimed.

The Shelter Period

An all-out countercity nuclear war with the Soviet Union would probably begin and end very quickly, with the detonation of approximately 20,000 megatons of explosive power in a short period. It is estimated that 10,000 megatons of bombs would fall on the United States, with approximately 2,000 bombs aimed at military and strategic targets and 4,000 at cities. The Arms Control and Disarmament Agency estimates that 80 percent of cities with populations of 25,000 or more are targeted.[7] The US Office of Technology Assessment estimates that between 20 million and 160 million people will die immediately,[8] out of a total population of 240 million. The remaining population would probably be sheltered in makeshift shelters in rural areas, except for high-ranking government officials who are designated to go to well-equipped blast shelters buried deep in the mountains. Most of those in shelters would face enormous difficulties, depending in part on the sophistication of the shelters.

The initial shelter problem would be to determine who gets in, because even primitive shelter space is extremely limited. Unfortunately, many designated shelters are similar to the one in Shelton, Washington, which is merely a long, narrow concrete tunnel under the Shelton Correctional Facility that could accommodate some 6,000 persons under crowded conditions. About 65,000 people from Thurston County are scheduled to go to Shelton. There are about 10,000 residents in Shelton alone. Who is to say who gets into the shelter? Those who do not get in will be advised to dig deep holes, cover the holes with a door and some dirt and crawl beneath the door. Deputy Undersecretary of Defense T. K. Jones, in an interview reported in the *Los Angeles Times* (January 18, 1982, p 1) states, "Everybody's going to make it if there are enough shovels to go around. . . . it's the dirt that does it." Perhaps another aspect of this strategy would be to

encourage people to dig their own graves, to minimize problems of disposing of the human corpses.

While underground shelters are somewhat protected from blast, fire and fallout, many have no provisions for lighting and have minimal ventilation. Underground evacuees may be huddled in the dark with minimal food, water and communication. However, many rural shelters are not underground. For example, many traffic tunnels are designated fallout shelters. Those in aboveground shelters will still lack food, water, toilet facilities and air filtration and moreover will have only minimal fallout protection. Only a few shelters will have radios, and because one effect of nuclear explosions is to disrupt communication systems, most shelters will be isolated from the world outside. Fear of an incipient attack and speculation about the fate of the world will produce further feelings of demoralization, helplessness and apathy.[9]

Most shelters will lack means to measure radiation levels, so there will be chronic anxiety about the invisible contamination of radiation sickness. Both at Three Mile Island and Hiroshima, hypochondriacal complaints mimicked the prodromal symptoms of radiation sickness, which are weakness, headache, nausea, anorexia, vomiting and lethargy. It will be impossible to tell who is going to die of radiation sickness in hours, days or weeks, and who will recover from the low doses of radiation or hypochondriacal symptoms. The care of the sick will be complicated by the problem of disposal of the corpses. A physician described a scene in a hospital in Hiroshima:

> Patients who could not walk urinated and defecated where they lay. Those who could walk would feel their way to the exits and relieve themselves there. Persons entering or leaving the hospital could not avoid stepping in the filth, so closely was it spread. The front entrance became covered with feces overnight, and nothing could be done, for there were no bedpans, and even if there had been, no one to carry them to the patients. Disposing of the dead was a minor problem, but to clean the rooms and corridors of urine, feces, and vomitus was impossible.[10(p12)]

The Crisis Relocation Plan from the Massachusetts Civil Defense Agency claims that

> while no one can guarantee perfect behavior in such an unprecedented situation as crisis relocation, the judgment of those who have studied peacetime and wartime evacuations is that constructive and law-abiding [behavior?] would be predominantly, and indeed overwhelmingly, the case. In an emergency, people tend to be jolted out of their normal routines and patterns, and many people go out of their way to help others.[11]

This optimistic, cheerful expectation of human behavior contrasts remarkably with the reported behavior of the Hiroshima survivors, who were generally too demoralized and dazed to respond to the needs of any but immediate family members. The Boat People of Cambodia suffered stresses analogous to shelter inmates: isolation, hopelessness and despair complicated by danger, demoralization, thirst, dehydration and starvation. There are reports that some refugees killed and ate young children so that the adults might survive (*Time,* January 11, 1982, pp 32, 61).

FEMA documents compare the behavior of persons evacuated from the scene of natural disasters such as hurricanes with projections of human behavior during evacuations preceding nuclear war. It may be true that people can be evacuated from hurricanes with minimal social or psychic disruption. Nuclear war, however, is fundamentally different from natural phenomena for three reasons. First, nuclear war is beyond human experience and has only two precedents, Hiroshima and Nagasaki, both of which connote intense fear. Humans habituate remarkably quickly to stress when it is predictable. For instance, the evacuation of the region surrounding Mount St Helens in 1980 was frightening and stressful. By contrast, the evacuation of the same area in March 1982 was relaxed, and Mount St Helens' jokes were commonplace. Because nuclear war is unfamiliar and portends to be catastrophic, people would be unlikely to respond with aplomb. Second, in the case of a hurricane, volcanic eruption or major hotel fire, the event is time limited, affects a specific region and there exists an outside world that can mobilize its resources to aid the victims. In a nuclear war, there will be no outside and no anticipated return to ordinary existence. The duration of the crisis will be indefinite. Third, radiation offends human sensibilities because it defies the senses. The fear of contamination, radiation sickness, cancer and genetic mutations is as intense as the fear of death, and far more mysterious. No natural phenomenon excites such anxiety.

Postattack Survival

Optimistic projections of the shelter period estimate that perhaps 10 percent of Americans will survive. It is difficult to imagine the world that they may face. No one knows whether or not the world will be darkened for a few years, following the deposition of enormous amounts of dust in the stratosphere. Whereas long-term climatic changes may not occur, just a single year of darkness may destroy most plant and animal life on earth. Alternatively, the world might be a brighter one, far brighter because the ozone layer could be depleted, and ultraviolet rays from the sun may pour through the atmosphere, burning plants and blinding animals and humans.

Each survivor will be confronted by unending problems of determining what to eat and what to drink, because the earth will be contaminated with long-lived radioactive isotopes that may be a source of increased radiation for every living thing on earth for thousands of years. Survivors might feel rather like King Midas: everything they touch, eat or drink will have varying levels of contamination.

Most survivors will have lost most, if not all, family members. Friends and foes alike will be dead. There will be millions of rotting corpses, both animal and human, and the constant threat of infections and plagues. The eeriness and "death immersion" of the postattack period is illustrated by this doctor's account of Hiroshima:

> There were no mosquitoes. This was strange because they were usually very numerous in the park at night. I could hear the croaking of frogs, and thought this strange, because why should

they survive when the carps and the eels were dead. At intervals, swishing sounds and soft thuds occurred nearby. These eerie sounds, I discovered, were made by birds, who from time to time lost their perch in the trees above, and fell to the ground dead.[12]

Those who survive will not dare return to their cities, which will have become radioactive mausoleums. The evacuation will in no way resemble a two-week vacation in the country, followed by the return to a life that was in any way similar to the time before the war. Survivors will have lost their property, their livelihoods, their family homes and probably their families as well. Evacuation host areas are far from population centers precisely because they lack water, or have inhospitable terrain. A severe water shortage will stifle attempts at rebuilding cities or reestablishing agriculture. Within a week, the survivors will travel backward in time, from the age of computers to the stone age.

These poor, weak, frightened persons will have no time to consider whether life has meaning. Rather, they will probably drag through their remaining days as did the inmates of Auschwitz—demoralized, dehumanized and oblivious. Will these walking corpses also lose the capacity to form relationships with one another? Will they dare to make friends or alliances? Will anyone in the postattack period dare to fall in love or to reproduce, knowing that everyone has been exposed to radiation? The most basic meaning in life is continuity through successive generations, usually through parenthood but also through teaching and creating new forms that will endure beyond the scope of individual survival. With the end of love will come the end of meaning.

Conclusion

There are fundamental differences between the quest for meaning in an individual life faced with individual death and the quest for social meaning in a world faced with nuclear war. Individual death is inevitable. Collective death is not. Individual death is a certainty that may be transcended spiritually or creatively. Nuclear annihilation is a problem created by humans and requiring human solutions; otherwise, there will be no opportunity for transcendence. It is the height of selfishness to assume a fatalistic approach to collective extermination, as though with the death of the self, the deaths of all others lose meaning.

Yet, by breaking through the denial and fatalism and becoming involved in an active way on behalf of our children and the planet, we have an opportunity to find enhanced meaning. We can show our children that we love them enough to grow up ourselves and to shoulder this awesome responsibility.

Let me close with a story. A man who is newly active in the peace movement told me that one day his son's teacher asked his class what they thought about nuclear war. Fourteen of the 7-year-old children felt that nuclear war was coming, and they were terrified. Only the man's son felt secure. When asked why, the boy stated, "I know that there won't be a nuclear war because my daddy goes to meetings all the time to prevent it."

Who among us can deny children this hope?

REFERENCES

1. Lifton RJ: The Broken Connection. New York, Simon & Schuster, 1979

2. Frankl V: Man's Search for Meaning [revised and enlarged edition of From Death Camps to Existentialism, 1962]. Boston, Beacon Press, 1968

3. Yeats WB: The Second Coming: Collected Poems. New York, Macmillan, 1964

4. Mack JE: Psychosocial effects of the nuclear arms race. Bull Atomic Scientists, 1981 Apr, pp 18-23

5. Katz A: Life After Nuclear War. Cambridge, Ballinger Press, 1982

6. Lifton RJ: Psychobirds. Taftsville, VT, Countryman Press, 1978

7. Arms Control Report: The Effects of Nuclear War. US Arms Control and Disarmament Agency, Apr 1979

8. Office of Technology Assessment Report: The Effects of Nuclear War. Montclair, NJ, Allanheld, Osmun & Co, 1980, p 10

9. Grinspoon L: Fallout shelters and mental health. Medical Times, Jun 1963

10. Hachiya M: Hiroshima Diary. Chapel Hill, NC, University of North Carolina Press, 1955

11. Crisis Relocation Plan, Massachusetts Civil Defense Agency, 400 Worcester Road, Framingham, MA 01701

12. Wells W: Dr. Kaoru Shima—His recollections of Hiroshima after the A bomb. Am Surg 1958 Sep; 24:668-678